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MICHAEL

ELLISON

Derivations

for kemençe

and cello

SCORE

Derivations for kemençe and cello was adapted from its original version for kemençe and viola, for Nermin Kaygusuz and Gökhan Bağcı in July 2018 for premiere at the ERC Science² European Science Open Forum (ESOF) conference/Science in the City in Toulouse, France, July 10-12, 2018, and premiered in several outdoor performances.

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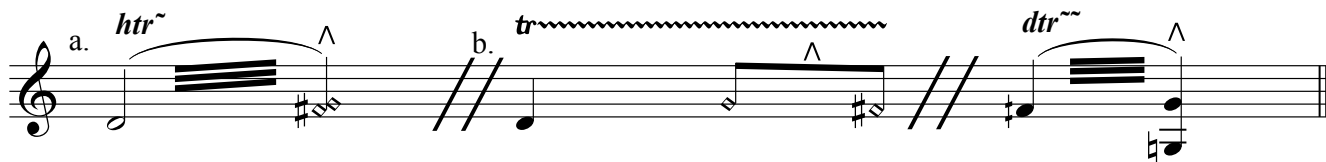


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PERFORMANCE NOTES

a-b: Two alternative ways of notating a 'harmonic trill', a rapid, three way tremolando where fundamental is sounded every other note, but artificial harmonic touches alternate freely and rapidly above
 c: double trills notated by same principle. First note is primary, trilled-from note, happening twice as much as others. An inverted upbow mark and 'dtr' distinguishes this alternating form of trill from double stopped tremolandi



..... gradually dissipate harmonic (or other effect) while keeping fundamental



slide downwards between -1 and -3 komas flat, ussak style

u

unspoken grace note

MV,

molto vibrato

SV

senza vibrato



gradually increase vibrato

SP/ASP Sul ponticello, extreme sul ponticello (alto s.p.)

ST/AST Sul Tasto, extreme sul tasto (alto s.p.)

TUNING AND DELIBERATES ('Accidentals')

This piece is based on non-equal tempered makam tuning. All fifths should be pure (702 cents), tuned around A 440. (If the central A needs to be A442, or any other frequency, all tuning moves in relation to the A as central pitch.

Approximate tunings of initial "Pythagorean Spine of fifths" (0 koma) pitches

In relation to Equal temperament notes as given on a tuner

(A 440 being the only exactly common point with this tuning) are:

-12 -10 -8 -6 -4 -2 0 +2 +4 +6 +8 +10 +12

E^b B^b F C G D A E B F^{#+} C^{#+} G^{#+} D^{#+}

A "Koma" is approximately 22.6 cents. One koma up and one koma lowered are used to produce Just-intonation 3rds. 2-3 komas down or up are not so much fixed points as unstable, moveable zones. It is imperative the musician listen to treatment of this 'Ussak' genus of notes (notated as half flats or half sharp) to learn how to 'move through them' or subtly increase vibrato when held longer to emphasise their inherent instability.

DELIBERATES ('Accidentals') Notation



+1 koma (just Major Third below nearest 'fifths spine' pitch)



0 koma = close to ET, tuned in pure fifths from A440 ('fifths spine')



-1 koma (just Major Third above)



-2-3 koma/ +2 koma (ussak species of 'pitch regions')

(These pitches, when descending, usually gliss. downwards between -1 koma and -3.)

Derivations 1: Ussak

♩=52-58 Tempo

(Saba/Ussak on F)

Kemençe

SP 5:3 (koma trill) ord. u.

p *f* *mf* *p*

Cello

SP 5:3 ord. pizz. arco

p *f* *mf*

9/16

A

Kem in G

p *f* u.

Vc.

4:3 SP 4:3 4:3 pizz. SP arco

3

(ussak on B segah) ord.

Kem in G

pizz. SV *mp* *espress.* *mp*

Vc.

f B- B- B *mf* *espress.* u. *

Kem in G

SV MV SV *mp* 5

Vc.

SV MV SV *mp* 9 *f*

10 **B** SABA on D *assertive*
 Kem in G *f*
 Vc. *mp* *u.* *pizz.* *arco* *mf*

12
 Kem in G
 Vc. *p* *AST* *u* *ord.SP* *<f*

15 **C**
 Kem in G *mf* *espress.*
 Vc. *mf* *ord.* *u.* *tr* *h** *h tr*

*if impossible to harmonic trill, trill maj above only

18
 Kem in G
 Vc. *(tr)*

19
 Kem in G
 Vc. *ord.* *SP* *fp*

32 *ad lib (free)* *slightly slower than viola* *6x accel. . . . Allegro* *slower than viola, but accelerating* *mutual cue*

Kem in G

Vc. *ad lib (free)* *8x accel. . . . Allegro* *fp*

35 **E** *(Ussak on D)* *espress.*

Kem in G *f* *sost., ultra smooth*

Vc. *f* *sub. mp* *f*

38 (A Saba) (D Ussak/Karcigar)

Kem in G

Vc.

p 3 *cresc. poco a poco*

p 3 *cresc. poco a poco*

42 (A Saba) (F saba/ussak) (Dik Mi!) SV

Kem in G

Vc.

f *sf pp*

f *f pp* *mf p*

mf p *mf p*

47 SV

Kem in G

Vc.

mf *p* *f*

mf *pp* *f*

52 SV (ussak on C#)

Kem in G

Vc.

f *pizz.* *SP arco* *pizz.* *arco* *p*

f *B- B- B*

54 ord. SV → MV

Kem in G

Vc.

espress. *p* *espress.* *u* ***

f *mp* 9

57 SV *mp* 5 *f* SABA on E *assertive* *pizz. arco* *mf*

Kem in G

Vc.

f *mp* *mf*

*

60 *p* *ord.SP* *f*

Kem in G

Vc.

AST *u*

63 *ord.* *mf* *ord.* *mf*

Kem in G

Vc.

ord. *mf* *ord.* *mf*

65 *rall.* *p* *pp* *ppp* **F**

Kem in G

Vc.

rall. *p* *pp* *ppp*